

# bodybuilding-fitness-...

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- The Muscle Physiology
- The Energy Metabolism
- The Endocrine system

**Topic 3: Exercise Physiology**

- The Cardiovascular System
- Physiological Responses and Adaptations to Weight Training
- Proprioception and Neuromuscular control during exercise
- Safe Prescription for Special Populations
- The safety of weight training: hemodynamic factors and cardiovascular incidents

**Topic 4: Musculoskeletal injuries**

- Injury Types
- Risk factors associated with Weight Training Injuries
- Types of Musculoskeletal Injuries in Weight Training
- Prevention of Injuries and Recommendations

- Muscle imbalances
- Tables of muscle actions
- Specific movements and muscles for each joint
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**Topic 7: Biomechanics foundations of Weight Training**

- Kinematics: the description of the movement
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**Topic 8: Kinesiology and biomechanics applied to Weight Training exercises**

- Applied kinesiology
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**MODULE III****Topic 9: Basic nutrition**

- Metabolism and energy balance
- Carbohydrates
- Proteins
- Fats
- Vitamins, minerals and water.
- Nutritional pyramid for performance
- Natural anabolic nutrition
- Basic sport nutrition
- The supplements
- The 20 best foods
- The recovery

**MODULE IV****Topic 10: Training cycles and programs**

- Training systems for beginners, Intermediate level and Advance level
- The perfect warm up
- Stretching
- Basic breathing and muscle relaxation techniques
- Practical training principles
- Cardiovascular training

**MODULE V****Topic 11: Personalized physical activity**

- Aerobic Training
- Activities that meet the demands of aerobic work
- Starting over
- Establishing a Program
- Anaerobic training
- List of exercises

**MODULE VI****Topic 12: Abdominal: Anatomy and Structure**

- Anatomy of the abdominal wall
- Muscles worked on abdominal exercises
- Thoracolumbar Fascia: Architecture and Structure
- Overview and Morphologic aspects of the Abdominal Muscles
- Anatomy of the Vertebral Column
- Planes and Axis of Motion of the Spine
- Anatomy of the vertebrae with emphasis on the Lumbar spine
- Joints of the Vertebral Column
- Intervertebral Disc structure and Zygopophyseal Joint Structures
- Ligaments of the Vertebral Column

**Topic 13: Abdominal: Kinesiology and Biomechanics**

- Kinesiology considerations about the Abdominal Exercises
- Biomechanics of the Lumbar Spine
- Application of Biomechanics on Abdominal Exercises
- Machines and devices used for Abdominal Exercises: Myths and Truth
- Abdominal Exercises for fat Loss
- Kinesiology and Biomechanics Analysis from 45 abdominal exercises
- Abdominal exercises during pregnancy
- Specific Stretch Exercises

**MODULE VII****Topic 14: Organization and administration of a gym**

- Procedures for the gym's day to any operations
- Check list of gym rules and policies
- Check list for staff requirements
- Responsibilities of the staff
- The visual communication
- Guaranteed of quality
- Continuous improvement
- Check list for maintenance Clients file
- Check list for first-aid equipment
- Check list for overall gym preparedness
- Check list for staff preparedness
- Maintenance

**Topic 15: The safety training**

- Preparation of the physical structure of the weight training room
- Emergency preparedness
- Checklist for first-aid equipment

**Topic 16: Questionnaires**

- Physical Fitness Questionnaire
- Waist / Hip Ratio
- Risk factors
- Anthropometric evaluation
- Training program goals
- Test Per-Q & you
- Health Questionnaire
- Questionnaire for a training program

**BONUS****The anti-doping in sport**

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- Structure and function of the skeletal system (bones)
- Structure and function of the articular system
- Structure and function of the muscular system
- Musculoskeletal adaptations to weight training

**Topic 2: General Physiology**

- The Joint system
- The Bony system
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**Topic 5: Basic concepts of anthropometry**

- Definition
- Body size
- Anthropometric Characteristics of the Body
- Implications of Anthropometrics in Movement Analysis

**MODULE II****Topic 6: Kinesiological foundations of bodybuilding**

- Muscular functions
- Classification of muscles
- Factors that affect muscle function
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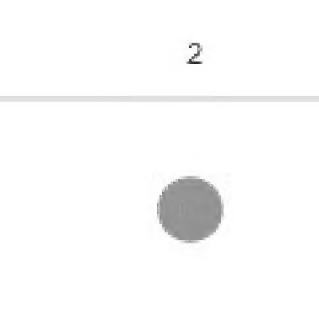
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